

FIGURE 1

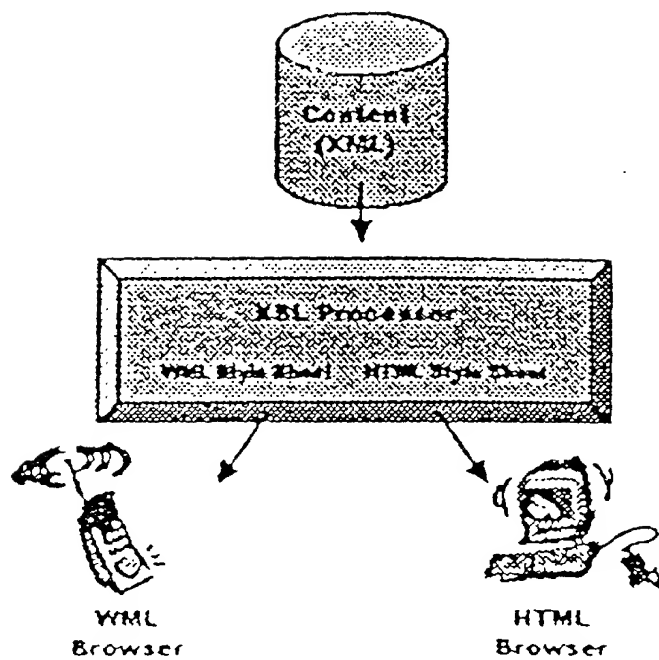


FIGURE 2

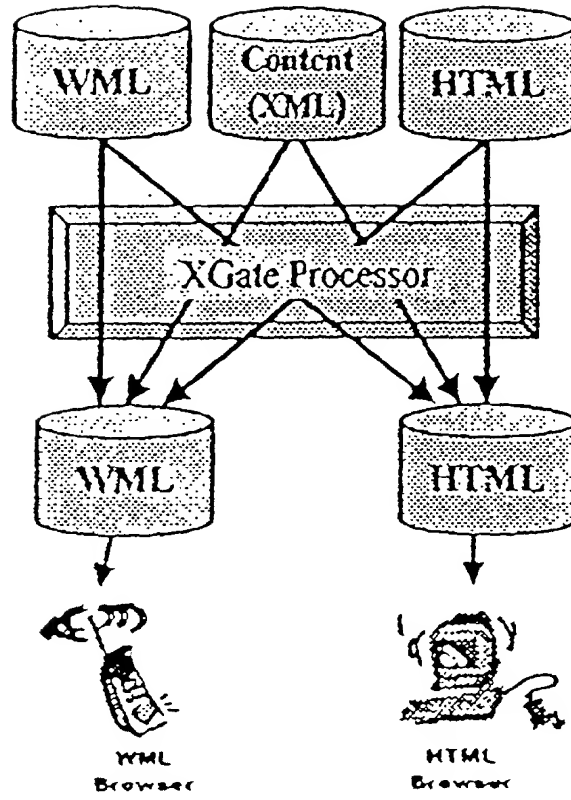


FIG. 20 "0440"

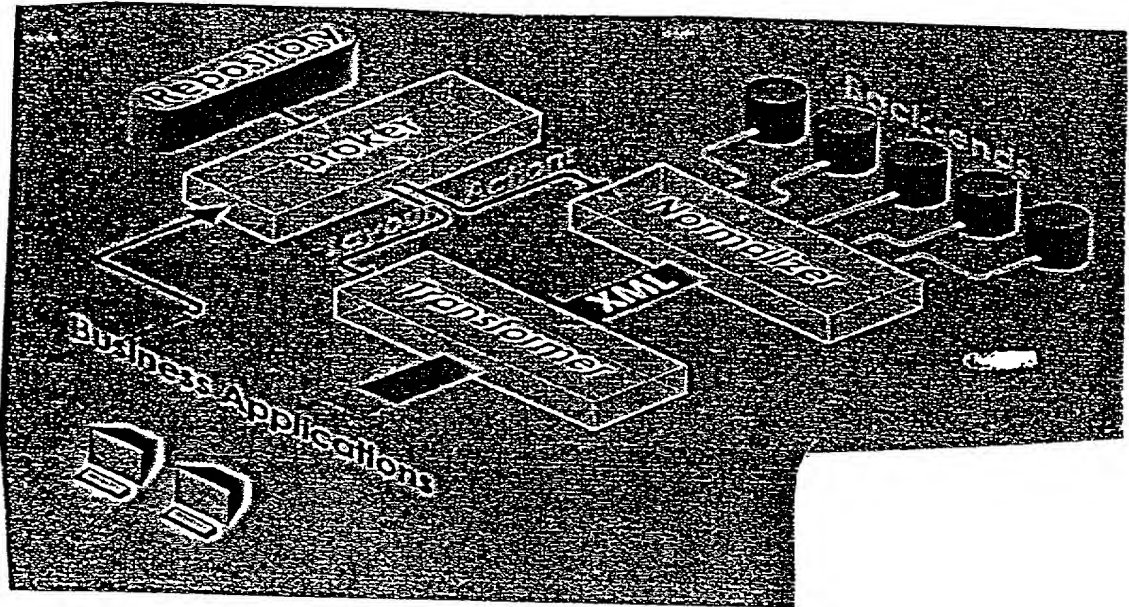
[illegible]

FIGURE 4

**E-commerce application**

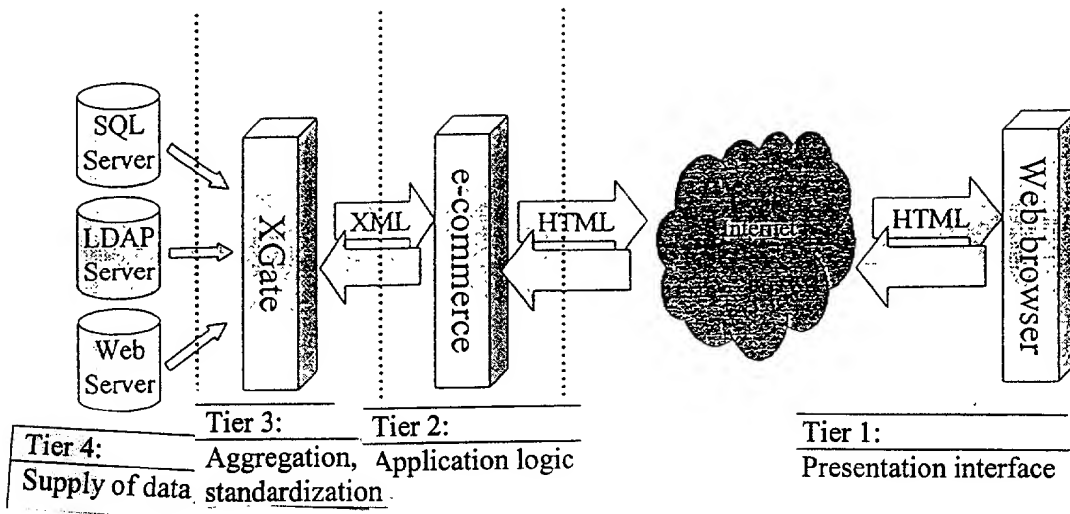
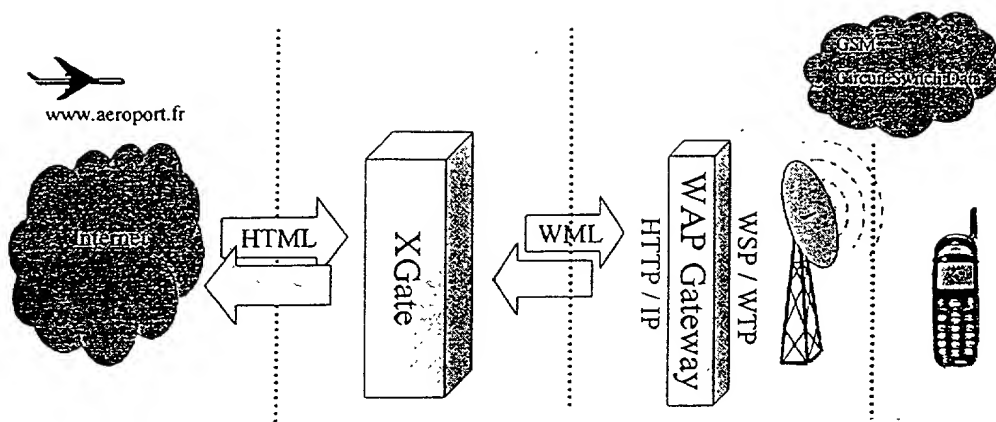


FIGURE 5

# HTML-WML Conversion



Tier 4:	Tier 3:	Tier 2:	Tier 1:
Supply of data	Conversion	Adaptation, Transport	Presentation interface

FIGURE 6

Transformation: Stream

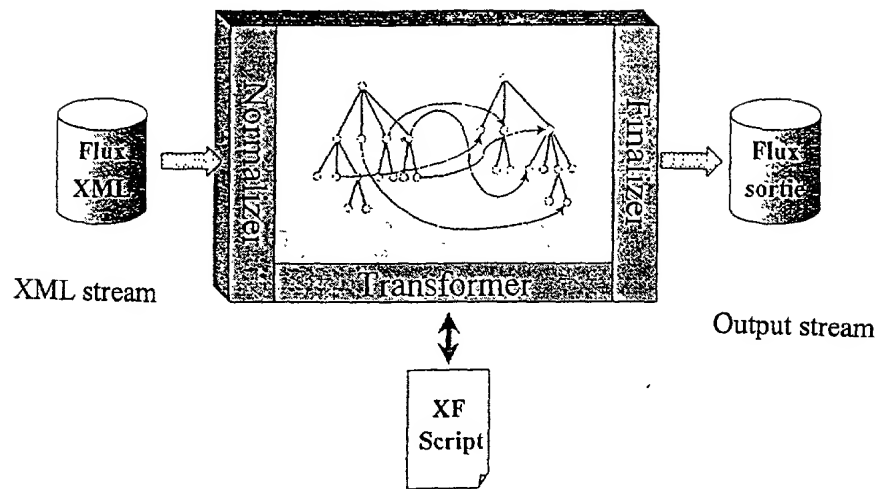


FIGURE 7

## Aggregation and Transformation

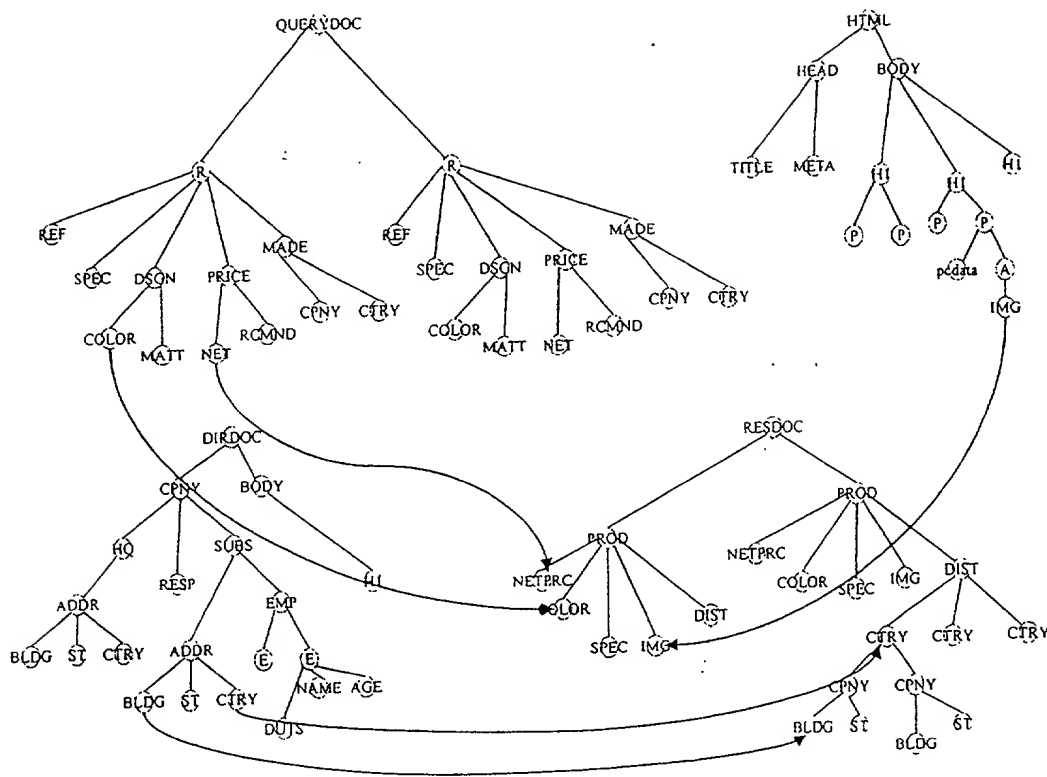
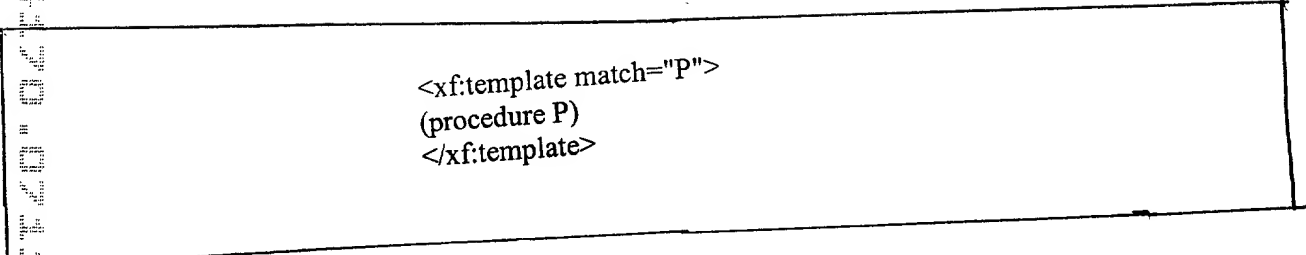


Fig 7

FIGURE 8



```
<xf:template match="P">  
(procedure P)  
</xf:template>
```



FIGURE 9

```
<xf:template match="HTML">
  XF.trace();
  XF.applyTemplates("origin().descendant(all, (FRAMESET|BODY))");
</xf:template>
```

FIGURE 10

```
<xf:template match="FRAMESET">
  XF.setVar("framed", 1);
  var list = this.getChildNodes();
  for (var i=0; ;++i) {
    var child = list.item(i);
    if (child == null) break;
    if (child.getNodeName() == "FRAME") {
      var name = child.getAttribute("name");
      if (
        ((name == null) && (child.getNextSibling() == null)) ||
        (name == "HOME") || (name == "MainMenu") ||
        (name == "Content") || (name == "Result")
      ) {
        XF.redirectTo(child.getAttribute("src"));
        break;
      }
    }
  }
}</xf:template>
```

FIGURE 11

```
<xf:template name="body" match="BODY"> 113
  if (null == XF.getVar("framed")) {
    XF.result().write(prolog); 111
    var url = XF.getURL();
    if (url.indexOf("DayFlight") > 0) { // result
      XF.applyTemplates("origin().descendant(all,TBODY)"); 114
    } else { // HomePage (Dep/Arr)
      XF.applyTemplates("origin().descendant(all,IMG)"); 115
    }
    XF.result().write(epilog); 112
  }
</xf:template>
```

Figure 11

FIGURE 12

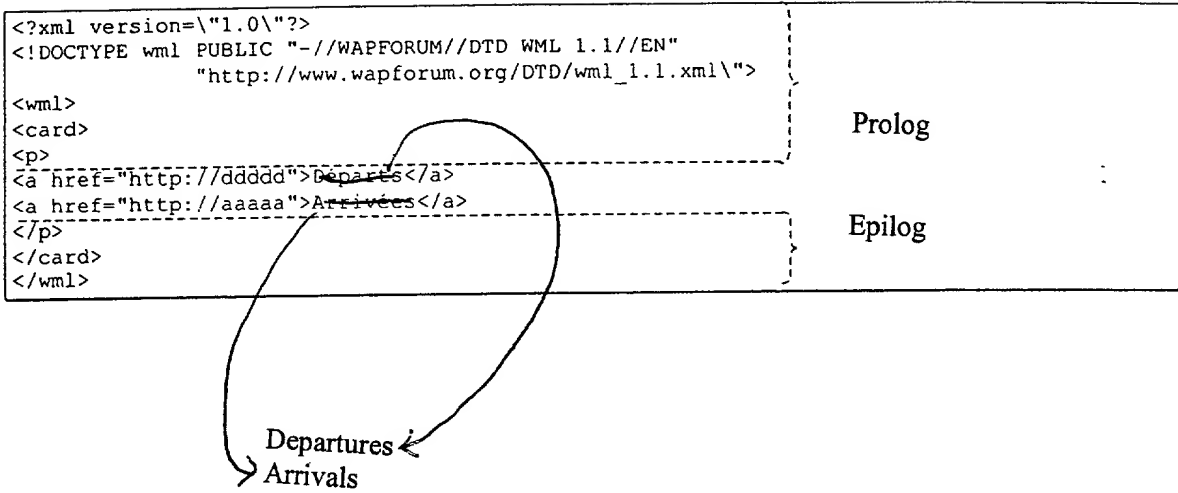


FIGURE 13

```
<xf:template name="menuitem" match="IMG^3">
  var text = this.getAttribute("src");
  if (text.indexOf("DEPART") > 0) {
    addAnchor(this, "Départs", "airport.21");
  } else if (text.indexOf("ARRIVE") > 0) {
    addAnchor(this, "Arrivées", "airport.22");
  }
</xf:template>
```

DEPARTURE  
Departures  
ARRIVAL  
Arrivals

FIGURE 13

FIGURE 14

```
<xf :scripts>
  function addAnchor(node, text, localRef) {
    while (null != (node = node.getParentNode())) {
      if (node.getNodeName() == 'A') {
        XF.result().writeAnchor(text, node.getAttribute("href"), localRef)
        break;
      }
    }
  }
</xf:scripts>
```

FIGURE 15

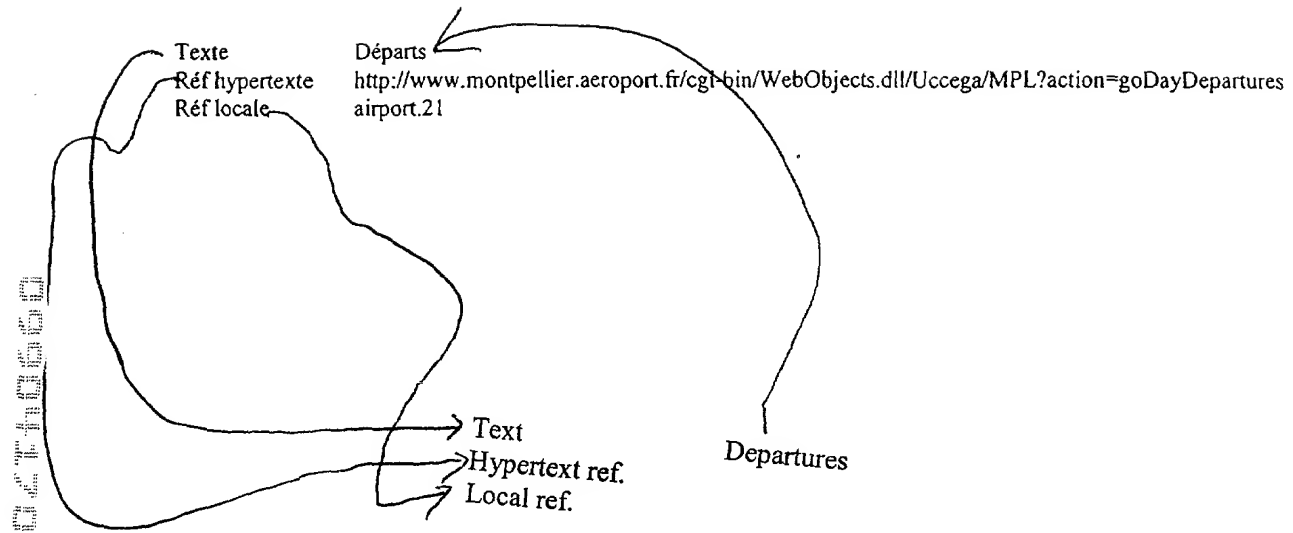


Figure 16

FIGURE 16

Representation of schedule table

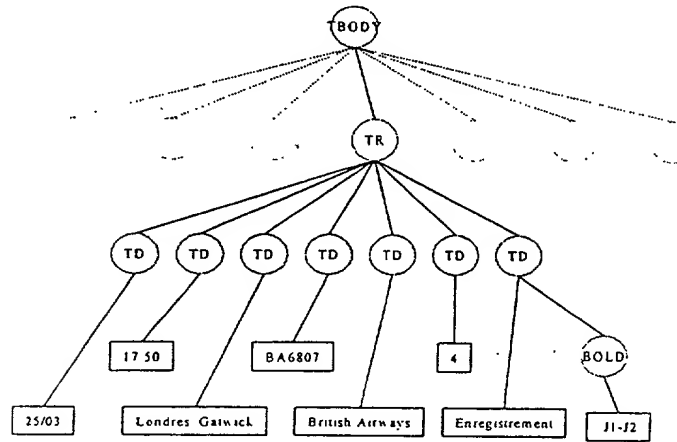




FIGURE 17

```
<xf:template match="TBODY">
  var list = this.getChildNodes();
  for (var i=0; ;++i) {
    child = list.item(i);
    if (child == null) break;
    if (child.getAttribute("bgcolor") == "FFFFFF") { // irrelevant
      i += 3;
    } else {
      var data = new FlightData();
      XF.applyTemplates(
        "origin().child(" + i + ").descendant(all, #text)",
        data
      );
      XF.result().write(data.timeFrom + "<br/>" + data.others);
    }
  }
</xf:template>
```

171

172

173

174

Fig. 17

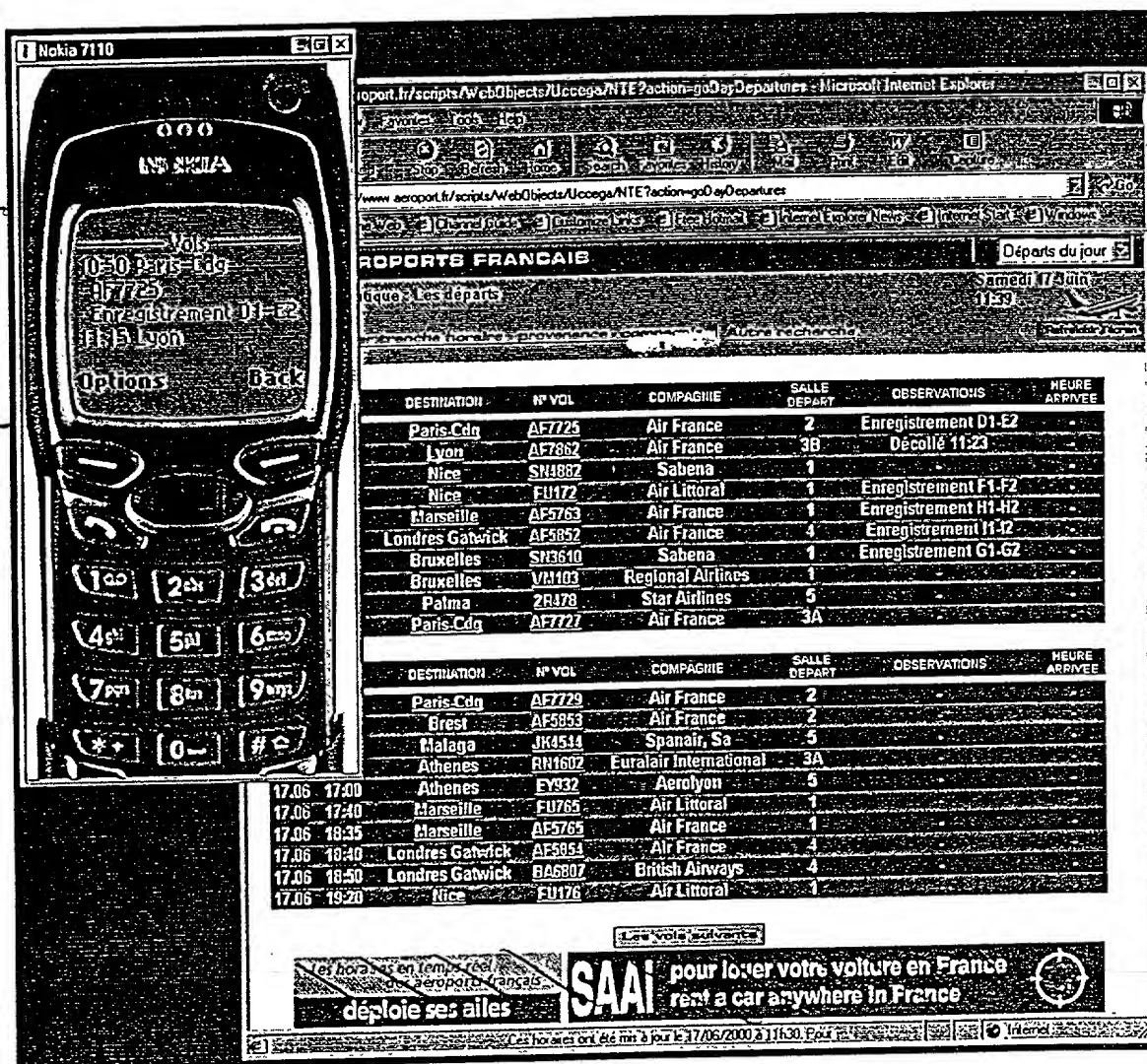
FIGURE 18

The template procedure for each portion of text is written simply:

```
<xf:template name="flight" match="text()">
  var text = this.getNodeValue().reduce();
  if (text.length > 0) {
    var i = arg0.item++;
    if (i == 1) {    arg0.timeFrom = text + " ";           // arrival time
    else if (i == 2) arg0.timeFrom += text;                // from
    else if (i == 3) arg0.others = "." + text + "<br/>";     // airline
    else if (i == 4) arg0.others += "." + text + "<br/>";    // buildg
    else if (i == 5) arg0.others += "." + text + "<br/>";    // remarks
    else if (i == 6) arg0.others += "." + text + "<br/>";    // departure time
  }
</xf:template>
```

Flights  
 10:50 Paris-Cdg  
 AF7725  
 Check in D1-E2  
 11:15 Lyon  
 Options      Back

FIGURE 19



## FRENCH AIRPORTS

Daily departures  
 Saturday, June 17

Destination	Flight No.	Airline	Gate	Notes	Arrival time
				Check in D1-E2	
				Departed 11:23	
				Check in F1-F2	

FIGURE 20

```
[Jun 17 12:38:55 CEST 2000] Service-47 started
[Jun 17 12:38:55 CEST 2000] Service-47, Proxy: plain copy
[Jun 17 12:38:55 CEST 2000] Service-47-in: GET http://www.Nantes.aeroport.fr HTTP/1.0
accept: text/html
proxy-connection: Keep-Alive
accept-charset: ISO-8859-1, UTF-8
host: www.Nantes.aeroport.fr
user-agent: JaxoXform (1.25)

[Jun 17 12:38:56 CEST 2000] Service-47-out: HTTP/1.0 200 OK
content-type: text/html
date: Sat, 17 Jun 2000 09:42:47 GMT
last-modified: Fri, 12 May 2000 14:53:47 GMT
accept-ranges: bytes
link: <http://www.aeroport.fr/?PageServices>; rel="PageServices"
content-length: 5932
server: Netscape-Enterprise/3.5.1

[Jun 17 12:38:56 CEST 2000] Service-47-out, Xform: parsing...
Cannot start element "META": a required element is missing in BODY
  line 3, col 76
  in:   "Content-Type" CONTENT="text/html; charset=iso-8859-1">'
  at: >-----*
Cannot start element "META": a required element is missing in BODY
  line 4, col 451
  in:   're, terminal, piste, runway, fret aerien, air freight">'
  at: >-----*
Cannot start element "META": a required element is missing in BODY
  line 5, col 403
  in:   'mercial services, tourism in the Aquitaine region ...">   </head>'
  at: >-----*
Warning: invalid end tag: "HEAD"
  line 5, col 413
  in:   'rvices, tourism in the Aquitaine region ...">   </head>'
  at: >-----*
Warning: invalid end tag: "NOFRAMES"
  line 60, col 12
  in:   '</noframes>'
  at: >-----*
[Jun 17 12:38:57 CEST 2000] Service-47-out, Xform: transforming...
[Jun 17 12:38:57 CEST 2000] Service-47-out, Xform: done.
[Jun 17 12:38:57 CEST 2000] Service-47 ended
[Jun 17 12:38:57 CEST 2000] Captured response -----
HTTP/1.0 302 Redirected by transform
location: http://xgate.jaxo.com/gjm/airport.rd
content-type: text/vnd.wap.wml; charset=ISO-8859-1
date: Sat, 17 Jun 2000 09:42:47 GMT
last-modified: Fri, 12 May 2000 14:53:47 GMT
accept-ranges: bytes
link: <http://www.aeroport.fr/?PageServices>; rel="PageServices"
server: Netscape-Enterprise/3.5.1
```

FIGURE 21

```
[Jun 17 12:38:58 CEST 2000] Service-48 started
[Jun 17 12:38:58 CEST 2000] Service-48, Proxy: plain copy
[Jun 17 12:38:58 CEST 2000] Service-48-in: GET
http://www.nantes.aeroport.fr/scripts/WebObjects/Uccega/NTE HTTP/1.0
accept: text/html
proxy-connection: Keep-Alive
accept-charset: ISO-8859-1, UTF-8
host: www.nantes.aeroport.fr
user-agent: JaxoXform (1.25)

[Jun 17 12:38:59 CEST 2000] Service-48-out: HTTP/1.0 200 NeXT
content-type: text/html
date: Sat, 17 Jun 2000 09:42:49 GMT
content-length: 321
server: Netscape-Enterprise/3.5.1

[Jun 17 12:38:59 CEST 2000] Service-48-out, Xform: parsing...
[Jun 17 12:38:59 CEST 2000] Service-48-out, Xform: transforming...
[Jun 17 12:38:59 CEST 2000] Service-48-out, Xform: done.
[Jun 17 12:38:59 CEST 2000] Service-48 ended
[Jun 17 12:38:59 CEST 2000] Captured response -----
HTTP/1.0 302 Redirected by transform
location: http://xgate.jaxo.com/gjm/airport.rd
content-type: text/vnd.wap.wml; charset=ISO-8859-1
date: Sat, 17 Jun 2000 09:42:49 GMT
server: Netscape-Enterprise/3.5.1
```

FIGURE 22

```
[Jun 17 12:38:59 CEST 2000] Service-49 started
[Jun 17 12:39:00 CEST 2000] Service-49, Proxy: plain copy
[Jun 17 12:39:00 CEST 2000] Service-49-in: GET
http://www.nantes.aeroport.fr/scripts/WebObjects/Uccega/NTE.woa/2093200000268020000023311
00000536431/Main.wo/7192100000436431/1/1/Mermoz HTTP/1.0
accept: text/html
proxy-connection: Keep-Alive
accept-charset: ISO-8859-1, UTF-8
host: www.nantes.aeroport.fr
user-agent: JaxoXform (1.25)

[Jun 17 12:39:05 CEST 2000] Service-49-out: HTTP/1.0 200 NeXT
content-type: text/html
date: Sat, 17 Jun 2000 09:42:52 GMT
content-length: 490
server: Netscape-Enterprise/3.5.1

[Jun 17 12:39:05 CEST 2000] Service-49-out, Xform: parsing...
[Jun 17 12:39:05 CEST 2000] Service-49-out, Xform: transforming...
[Jun 17 12:39:05 CEST 2000] Service-49-out, Xform: done.
[Jun 17 12:39:05 CEST 2000] Service-49 ended
[Jun 17 12:39:05 CEST 2000] Captured response -----
HTTP/1.0 302 Redirected by transform
location: http://xgate.jaxo.com/gjm/airport.rd
content-type: text/vnd.wap.wml; charset=ISO-8859-1
date: Sat, 17 Jun 2000 09:42:52 GMT
server: Netscape-Enterprise/3.5.1
```

FIGURE 23

```
[Jun 17 12:39:05 CEST 2000] Service-50 started
[Jun 17 12:39:06 CEST 2000] Service-50, Proxy: plain copy
[Jun 17 12:39:06 CEST 2000] Service-50-in: GET
http://www.aeroport.fr/Uccega/NTE/Html/FR/HP/home.htm HTTP/1.0
accept: text/html
proxy-connection: Keep-Alive
accept-charset: ISO-8859-1, UTF-8
host: www.aeroport.fr
user-agent: JaxoXform (1.25)

[Jun 17 12:39:10 CEST 2000] Service-50-out: HTTP/1.0 200 OK
content-type: text/html
date: Sat, 17 Jun 2000 09:42:57 GMT
last-modified: Wed, 17 May 2000 16:10:48 GMT
accept-ranges: bytes
link: <http://www.aeroport.fr/Uccega/NTE/Html/FR/HP/home.htm?PageServices>;
rel="PageServices"
content-length: 507
server: Netscape-Enterprise/3.5.1

[Jun 17 12:39:10 CEST 2000] Service-50-out, Xform: parsing...
Cannot start element "BODY": not permitted by the document structure.
  line 11, col 35
  in:   '<noframes><body bgcolor="#FFFFFF">'
  at: >-----*

[Jun 17 12:39:11 CEST 2000] Service-50-out, Xform: transforming...
[Jun 17 12:39:11 CEST 2000] Service-50-out, Xform: done.
[Jun 17 12:39:11 CEST 2000] Service-50 ended
[Jun 17 12:39:11 CEST 2000] Captured response -----
HTTP/1.0 302 Redirected by transform
location: http://xgate.jaxo.com/gjm/airport.rd
content-type: text/vnd.wap.wml; charset=ISO-8859-1
date: Sat, 17 Jun 2000 09:42:57 GMT
last-modified: Wed, 17 May 2000 16:10:48 GMT
accept-ranges: bytes
link: <http://www.aeroport.fr/Uccega/NTE/Html/FR/HP/home.htm?PageServices>;
rel="PageServices"
server: Netscape-Enterprise/3.5.1
```





FIGURE 25

```
[Jun 17 12:39:18 CEST 2000] Service-52 started
[Jun 17 12:39:18 CEST 2000] Service-52, Proxy: plain copy
[Jun 17 12:39:18 CEST 2000] Service-52-in: GET
http://www.aeroport.fr/scripts/WebObjects/Uccega/NTE?action=goDayDepartures HTTP/1.0
accept: text/html
proxy-connection: Keep-Alive
accept-charset: ISO-8859-1, UTF-8
host: www.aeroport.fr
user-agent: JaxoXform (1.25)

[Jun 17 12:39:26 CEST 2000] Service-52-out: HTTP/1.0 200 NeXT
content-type: text/html
date: Sat, 17 Jun 2000 09:43:17 GMT
content-length: 563
server: Netscape-Enterprise/3.5.1

[Jun 17 12:39:27 CEST 2000] Service-52-out, Xform: parsing...
[Jun 17 12:39:31 CEST 2000] Service-52-out, Xform: transforming...
[Jun 17 12:39:31 CEST 2000] Service-52-out, Xform: done.
[Jun 17 12:39:31 CEST 2000] Service-52 ended
[Jun 17 12:39:31 CEST 2000] Captured response -----
HTTP/1.0 302 Redirected by transform
location: http://xgate.jaxo.com/gjm/airport.rd
content-type: text/vnd.wap.wml; charset=ISO-8859-1
date: Sat, 17 Jun 2000 09:43:17 GMT
server: Netscape-Enterprise/3.5.1
```

FIGURE 26

```
[Jun 17 12:39:32 CEST 2000] Service-53 started
[Jun 17 12:39:32 CEST 2000] Service-53, Proxy: plain copy
[Jun 17 12:39:32 CEST 2000] Service-53-in: GET
http://www.aeroport.fr/scripts/WebObjects/Uccega/NTE.woa/679800000057832000000210010000083
6431/Apt_FlightsResponse.wo/3641300000736431/1/1/Mermoz HTTP/1.0
accept: text/html
proxy-connection: Keep-Alive
accept-charset: ISO-8859-1, UTF-8
host: www.aeroport.fr
user-agent: JaxoXform (1.25)

[Jun 17 12:39:33 CEST 2000] Service-53-out: HTTP/1.0 200 NeXT
content-type: text/html
date: Sat, 17 Jun 2000 09:43:23 GMT
content-length: 471
server: Netscape-Enterprise/3.5.1

[Jun 17 12:39:33 CEST 2000] Service-53-out, Xform: parsing...
[Jun 17 12:39:34 CEST 2000] Service-53-out, Xform: transforming...
[Jun 17 12:39:34 CEST 2000] Service-53-out, Xform: done.
[Jun 17 12:39:34 CEST 2000] Service-53 ended
[Jun 17 12:39:34 CEST 2000] Captured response -----
HTTP/1.0 302 Redirected by transform
location: http://xgate.jaxo.com/gjm/airport.rd
content-type: text/vnd.wap.wml; charset=ISO-8859-1
date: Sat, 17 Jun 2000 09:43:23 GMT
server: Netscape-Enterprise/3.5.1
```

FIGURE 27

```
[Jun 17 12:39:34 CEST 2000] Service-54 started
[Jun 17 12:39:34 CEST 2000] Service-54, Proxy: plain copy
[Jun 17 12:39:34 CEST 2000] Service-54-in: GET
http://www.aeroport.fr/scripts/WebObjects/Uccega/NTE.woa/67980000005783200000210010000083
6431/Apt_DayFlights.wo/7507100000936431/0.1/1/Mermoz HTTP/1.0
accept: text/html
proxy-connection: Keep-Alive
accept-charset: ISO-8859-1, UTF-8
host: www.aeroport.fr
user-agent: JaxoXform (1.25)

[Jun 17 12:39:41 CEST 2000] Service-54-out: HTTP/1.0 200 NeXT
content-type: text/html
date: Sat, 17 Jun 2000 09:43:31 GMT
content-length: 30543
server: Netscape-Enterprise/3.5.1

[Jun 17 12:39:41 CEST 2000] Service-54-out, Xform: parsing...
[Jun 17 12:39:43 CEST 2000] Service-54-out, Xform: transforming...
[Jun 17 12:39:47 CEST 2000] Service-54-out, Xform: done.
[Jun 17 12:39:47 CEST 2000] Service-54 ended
[Jun 17 12:39:47 CEST 2000] Captured response -----
HTTP/1.0 200 NeXT
content-type: text/vnd.wap.wml; charset=ISO-8859-1
date: Sat, 17 Jun 2000 09:43:31 GMT
cache-control: max-age=0
cache-control: must-revalidate
server: Netscape-Enterprise/3.5.1

<?xml version="1.0"?>
<!DOCTYPE wml PUBLIC "-//WAPFORUM//DTD WML 1.1//EN"
"http://www.wapforum.org/DTD/wml_1.1.xml">
<wml><template><do type="prev" label="Back"><prev/></do></template>
<card title="Vols"><p>
10:50 Paris-Cdg<br/>&#183; AF7725<br/>&#183; Enregistrement D1-E2<br/>11:15
Lyon<br/>&#183; AF7862<br/>&#183; Décollé 11:23<br/>11:15 Nice<br/>&#183;
SN4882<br/>11:15 Nice<br/>&#183; FU172<br/>&#183; Enregistrement F1-F2<br/>11:55
Marseille<br/>&#183; AF5763<br/>&#183; Enregistrement H1-H2<br/>12:00 Londres
Gatwick<br/>&#183; AF5852<br/>&#183; Enregistrement I1-I2<br/>12:15 Bruxelles<br/>&#183;
SN3610<br/>&#183; Enregistrement G1-G2<br/>12:15 Bruxelles<br/>&#183; VM103<br/>14:00
Palma<br/>&#183; 2R478<br/>14:15 Paris-Cdg<br/>&#183; AF7727<br/>15:45 Paris-
Cdg<br/>&#183; AF7729<br/>15:55 Brest<br/>&#183; AF5853<br/>16:05 Malaga<br/>&#183;
JK4544<br/>16:15 Athenes<br/>&#183; RN1602<br/>17:00 Athenes<br/>&#183; EY932<br/>17:40
Marseille<br/>&#183; FU765<br/>18:35 Marseille<br/>&#183; AF5765<br/>18:40 Londres
Gatwick<br/>&#183; AF5854<br/>18:50 Londres Gatwick<br/>&#183; BA6807<br/>19:20
Nice<br/>&#183; FU176<br/></p></card></wml>
```

FIGURE 28

```

<!--
  $Id: xfdoc_0.1.dtd,v 1.12 1999/05/17 15:56:26 pgr Exp $
  (C) Copyright JAXO-Europe SA 1999-2000
  This work contains confidential trade secrets of JAXO-Europe SA.
  Use, examination, copying, transfer and disclosure to others
  are prohibited, except with the express written agreement of JAXO.

  xf:doc documents conversion scripts

  Typical usage:

  <?xml version='1.0'?>
  <!DOCTYPE xf:doc PUBLIC "-//JAXO//DTD XFDOC 0.1 Draft//EN"
    "http://www.jaxo.com/DTD/xfdoc_0.1.dtd">

  <xf:doc xmlns:xsl="http://www.jaxo.com/DTD/xfdoc_0.1.dtd" version='1.0'>

    <xf:template match="X">
      <!-- ECMA Script for X -->
    </xf:template match="X">

    <xf:template match="Y">
      <!-- ECMA Script for Y -->
    </xf:template match="Y">

    <xf:scripts>
      <!-- local scripts and variables, called from any template -->
    </xf:scripts>

  </xf:doc>

  Author:
  Pierre G. Richard <pgr@jaxo.com>
-->
<!ENTITY % XF.Version "-//JAXO//DTD XFDOC 0.1 Draft//EN">

<!ELEMENT xf:doc (xf:init?, (xf:template | xf:scripts)*)>
<!ATTLIST xf:doc
  in-content-type   CDATA #IMPLIED
  out-content-type  CDATA #REQUIRED
  xmlns:xsl         CDATA #IMPLIED
  version           CDATA #IMPLIED
>

<!ELEMENT xf:template CDATA>
<!ATTLIST xf:template
  match   CDATA #IMPLIED
  name    CDATA #IMPLIED
>

<!ELEMENT xf:scripts CDATA>
<!ELEMENT xf:init    CDATA>

```